

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A mesostructured material comprising a mineral phase within which are dispersed particles of nanometric dimensions wherein said dispersed particles comprise at least one metal oxide in the, present as at least partially crystalline state particles, selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said at least one metal oxide further comprising at least one metallic element M in the cationic form, wherein said element M is in solid solution within the crystalline lattice of said oxide.

2. (Currently Amended) [[A]] The material according to claim 1, which is thermally stable.

3. (Currently Amended) [[A]] The material according to claim 1, having at least one mesostructure selected from the group consisting of:

- (a) mesoporous mesostructures with three-dimensional hexagonal P63/mmc symmetry, with two-dimensional hexagonal symmetry, with three-dimensional cubic Ia3d, Im3m and Pn3m symmetry,
- (b) vesicular or lamellar type mesostructures, and
- (c) vermicular type mesostructures.

4. (Currently Amended) [[A]] The material according to claim 1, wherein said particles with nanometric dimensions are particles with a spherical or isotropic morphology, at least 50% of the population of which has a mean diameter in the range 1 to 10 nm, or highly anisotropic rod type particles, at least 50% of the population of which has a mean transverse diameter in the range 1 to 10 nm and a mean length that does not exceed 100 nm.

5. (Currently Amended) [[A]] The material according to claim 1, wherein the metal oxide present within said particles with nanometric dimensions has a degree of crystallinity of 30% to 100% by volume.

6. (Currently Amended) [[A]] The material according to claim 1, wherein the quantity of cations of element M in solid solution represents at least 0.2% 0.2 mole % of the total quantity of metallic cations present in the oxide.

7. (Currently Amended) [[A]] The material according to claim 1, wherein said particles with nanometric dimensions are particles based on cerium oxide, and in that said element M is selected from the group consisting of rare earths other than cerium, transition metals that are capable of being integrated in the cationic form in solid solution into a cerium oxide, and alkaline-earth metals.

8. (Currently Amended) [[A]] The material according to claim 1, wherein said particles with nanometric dimensions are particles based on zirconium oxide, and in

that said element M is selected from the group consisting of rare earths, transition metals that are capable of being integrated in the cationic form in solid solution into a zirconium oxide, and alkaline-earth metals.

9. (Currently Amended) [[A]] The material according to claim 1, wherein said particles with nanometric dimensions are particles based on titanium oxide, and said element M is selected from the group consisting of rare earths, transition metals that are capable of being integrated in the cationic form in solid solution into a titanium oxide, and alkaline-earth metals.

10. (Currently Amended) [[A]] The material according to claim 1, wherein said particles with nanometric dimensions are particles based on an oxide of a rare earth other than cerium, and said element M is selected from the group consisting of rare earths other than the rare earth constituting said oxide, transition metals that are capable of being integrated in the cationic form in solid solution into a rare earth oxide, and alkaline-earth metals.

11. (Currently Amended) [[A]] The material according to claim 1, wherein said mineral phase further comprises silica.

12. (Currently Amended) [[A]] The material according to claim 1, wherein the mineral phase comprises metallic cations of metal M wherein at least a portion of metallic cations of metal M are in the form of clusters based on metal M dispersed within said mineral phase and/or on the surface of said mineral phase.

13. (Currently Amended) [[A]] The material according to claim 1, wherein at least a portion of the particles with nanometric dimensions dispersed within the mineral phase is in contact with porous portions constituting the internal space of the material.

14. (Currently Amended) [[A]] The material according to claim 1, wherein the (mineral phase/particles with nanometric dimensions) molar ratio is in the range 20:80 to 99.5: 0.5.

15. (Currently Amended) [[A]] The material according to claim 1, further comprising crystallites based on the oxide, hydroxide, oxyhydroxide, carbonate or hydroxycarbonate of said element M.

16. (Currently Amended) [[A]] The material according to claim 1, said material being an ordered mesoporous or mesostructured material having a BET specific surface area in the range 750 to 2300 m² per cm³ of material.

17. (Previously Presented) A process for preparing a mesostructured material comprising a mineral phase within which are dispersed particles of nanometric dimensions wherein said dispersed particles comprise at least one metal oxide in the crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said at least one metal oxide further comprising at least one metallic element M in the cationic

form, wherein said element M is in solid solution within the crystalline lattice of said oxide, said process comprises the successive steps comprising:

- a) producing a mineral mesostructure integrating, within its walls, particles with nanometric dimensions comprising a metal oxide in its crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and a rare earth oxide other than cerium;
- b) introducing into the mesoporous structure obtained, a compound based on said element M, the total amount of element M introduced into the structure with respect to the total surface area developed by the mesostructure being less than 5 micromoles of cation per m² of surface; and
- c) subjecting the mesostructure produced to a temperature of at least 300°C and not higher than 1000°C.

18. (Currently Amended) [[A]] The preparation process according to claim 17, wherein step a) comprises the following steps:

- a1) forming an initial medium comprising a templating agent, comprising a surfactant type amphiphilic compound which can form micelles in the reaction medium;
- a2) adding to the medium of step a1) a colloidal dispersion of particles with nanometric dimensions based on a metal oxide in the crystalline state, wherein said metal oxide is selected from the group consisting of cerium oxide, a zirconium oxide, a titanium oxide and a rare earth oxide other than cerium;
- a3) forming a mesostructured mineral phase, optionally comprising silica, by adding a mineral precursor to the medium; and

a4) eliminating the templating agent, in particular by heat treatment or by entrainment by a solvent.

19. (Currently Amended) [[A]] The preparation process according to claim 17 wherein step b) comprises immersing the mesostructured material obtained at the end of step a) in a solution comprising the element M in a concentration in the range 0.1 to 1.5 mol/l, then filtering the medium obtained.

20. (Currently Amended) [[A]] The preparation process according to claim 17 wherein step b) comprises immersing the mesostructured material obtained at the end of step a) in an aqueous or hydro-alcoholic solution comprising cations of metal M in a concentration in the range 0.2 to 1.5 mol/l, then centrifuging the medium obtained at a rate of 2000 to 5000 rpm, for a period not exceeding 30 minutes.

21. (Currently Amended) [[A]] The preparation process according to claim 17, said process further comprising repeating one or more of steps b) and c) carried out on the solid obtained from the preceding cycle.

22. (Currently Amended) [[A]] The mesostructured material of Claim 1, wherein said material is a heterogeneous acidic, basic or redox catalyst.

23. (Currently Amended) [[A]] The mesostructured material of Claim 1, wherein the dispersed particles comprise particles of cerium oxide and at least one

metallic element is manganese, wherein said material is an absorption catalyst for oxides of nitrogen.

24. (Previously Presented) A material comprising: (a) a mineral phase within which are dispersed particles of nanometric dimensions wherein said dispersed particles comprise at least one metal oxide in the crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said at least one metal oxide further comprising at least one metallic element M in the cationic form, wherein said element M is in solid solution within the crystalline lattice of said oxide, and (b) a catalytic species, wherein the mineral phase comprises a support for the catalytic species.

25. (Currently Amended) A catalyst obtained by supporting comprising at least one catalytic species on and a material according to claim 1, wherein the material according to claim 1 is a support for the at least one catalytic species.

26. (Currently Amended) [[A]] The material according to claim 1, wherein the mineral phase further comprises doping agents other than element M in solid solution, wherein the totality of the doping agents represents at least 0.2% 0.2 mole % of the total quantity of metallic cations present in the oxide.

27. (New) The process of claim 18, where the step of eliminating the templating agent is selected from the group of process of heat treatment and entrainment by a solvent.